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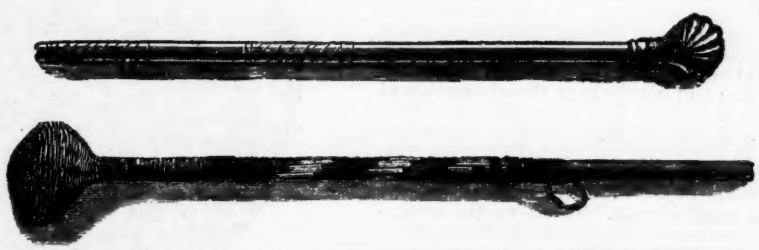
MATE, OR PARAGUAY TEA.

MATÉ forms the daily beverage of millions of inhabitants of the southern half of South America, viz., Uruguay, Paraguay, the Argentine Republic, Chili, and parts of Brazil and Bolivia. It is imbibed early in the morning, after the noon siesta, and often also in the evening, by all classes of inhabitants. Maté is to the South American what coffee or tea is to the European or to the inhabitant of Eastern Asia; it also takes the place of the alcoholic morning dram so commonly indulged in both in Europe and in the United States. A cup of maté alone will generally satisfy the stomach for several hours, breakfast being usually taken in the later hours of the forenoon. In this way the cooler morning hours can be devoted to work. After the morning meal follows a siesta, which is again followed by maté. Then comes the second but shorter period of work, and finally, toward evening, the principal meal of the day, after which the cool evening breezes are enjoyed. Of course this mode of living is adhered to only by those who have not as yet been initiated into the methods of the so-called modern civilization. The use of maté as a national beverage dates back to the earliest periods. From the aborigines it passed to the Spanish conquerors during their expedition to the upper Paraná and its affluents. No doubt in those days no silver or gold bombillas (tubes through which the beverage is drawn into the mouth) were known. Most likely they used the calabash gourd as a receptacle for the tea, and employed stalks, etc., fringed out at one end to act as strainer, as suction tubes. At least these materials are used even at the present day when the more elaborate apparatus is not at hand.

Maté Cup made of a gourd with the stem as a handle.

Maté Cup of red clay in the form of a gourd, with painted figures.



Bombillas, or sucking tubes, of silver, and of cane with basket-work strainer.

The home of maté is the territory about the upper course of the Paraná and its tributaries, on both sides of the equator, inclusive of the forests surrounding the upper course of the affluents of the Paraguay and the upper Uruguay. Hence it is found in the three southern provinces of Brazil, in the province of Matto Grosso, in the eastern part of Paraguay, and the extreme northeast of the Argentine Republic. The tree (not shrub) from which maté is derived is a species of Ilex (*Ilex paraguaensis* DeC., or *Ilex Maté* St. Hil.). Properly speaking, it is derived from four species, which are, however, very closely related, and which are distinguished by the natives as *caá-guazú*, *caá-mini*, *caá-nú*, and *caá-chiri*. The two first-named probably furnish all the maté, or *yerba*, as it is called, which now comes to market. This word *yerba* (Portuguese *herva*, from the Latin *herba*, herb) is merely a translation of the native word *caá*. *Guazú* means *great*, and *mi* or *mini* small.

The Paraguayan maté or yerba tree (*caáguazu*), when seen from a distance, presents the appearance of a moderate sized orange tree, though it is thinner and more slender. It may attain a height of about 36 feet; usually, however, it is only about 12 to 24 feet in height, particularly in the forests which are visited by the collectors (*yerbateros*). The dark-green, glassy leaves are about 3 inches long, lanceolate, having their greatest diameter at about two-thirds their length reckoned from the base, dentate, and bear upon their upper surface a mass of small warts or blisters which contain a resinous substance. The small, white flowers have 4 petals and 4 stamens; they are clustered in form of grapes, and are developed into round capsular fruits varying in size from a pepper berry to a pea. When ripe, they have a dark violet color. The tree flowers in Paraguay during October and November, and the seeds ripen during April and May. The leaves are gathered from January to August.

The yerba tree does not grow in continuous forests, but more in irregular batches throughout the region pointed out above. It always prefers the shady side of other trees. Such localities, where it occurs in large numbers, so that it pays to make a harvest of leaves, are called *yerbales*, which are further distinguished by names derived from the districts in which they are situated (San Pedro, San Antonio, etc.).

Throughout the region of the yerba forests of Paraguay there are scarcely any permanently domiciled inhabitants to be found. The yerbateros generally come from the western districts of the country, and return there after the work is done. Toward the end of the year the large operators hire their laborers, overseers, etc., paying them

the customary advance, which usually is spent in a short time in dissipation, after which they send them out into the woods, perhaps in company with a drove of cattle and a number of lumbering, clumsy, two-wheeled wagons carrying provisions and tools.

Silver Maté Cup. Peruvian.

The Absorption of Organic Matter by Plants.

In a communication from Prof. Calderon, of the Institute of Las Palmas, Canary Isles, he contests the ordinary view that the nitrogen of the tissues of plants is derived entirely from the nitrates and ammoniacal salts absorbed through the roots. He does not, however, adopt the old theory that the source is the free nitrogen of the atmosphere, but rather the nitrogenous organic matter which is always floating in the air. The nutrition of plants he divides into three classes: *necrophagous*, the absorption of dead organic matter in various stages of decomposition; *plasmophagous*, the assimilation of living organic matter without elimination, or distinction of any kind between useful and useless substances, such as the nutrition of parasites; and *biophagous*, the absorption of living organisms, such as that known in the case of insectivorous plants. A further illustration of the latter kind of nutrition is, according to Prof. Calderon, furnished by all plants provided with viscid hairs or a glutinous excretion, the object of which is the detention and destruction of small insects. To prove the importance of the nitrogenous substances floating in the air to the life of plants, he deprived air of all organic matter in the mode described by Professor Tyndall, and subjected lichens to the access only of this filtered air and distilled water, when he found all their physiological functions to be suddenly suspended.—*Nature.*

Precautions against Consumption.

In a circular on precautions against consumption, published by the State Board of Health of Pennsylvania, the following advice is given: "The duster, and especially that potent distributer of germs, the feather duster, should never be used in a room habitually occupied by a consumptive. The floor, woodwork, and furniture should be wiped with a damp cloth. The patient's clothing should be kept by itself, and thoroughly boiled when washed. It need hardly be said that the room should be ventilated as thoroughly as is consistent with the maintenance of a proper temperature."

On the Alkaloids of Belladonna.

Dr. O. Hesse has recently communicated the results of new researches on the alkaloids of belladonna. We give, in the following, an abstract of his paper contained in the *Annalen der Chemie* (vol. 216, 87):

Up to within thirty years ago only one alkaloid of belladonna was known, viz., atropine, which was first obtained by Mein (1831) from the root, and two years later (1833), independently, by Geiger and Hesse from the herb of belladonna and the extract prepared from it. Although Geiger and Hesse likewise obtained an alkaloid from the root, it is now impossible to say whether this was atropine, since it was amorphous. It is quite possible that it consisted mostly of belladonnine (which was first isolated and recognized by Hübschmann in 1858) or of hyoscyamine. This would not be very surprising in view of the fact, recently reported by Will, that belladonna root originally contains no atropine, but merely hyoscyamine, which is changed into the former during the process of extraction.

The presence of hyoscyamine in belladonna root was first discovered by Ladenburg and confirmed by Schmidt.

Belladonnine appears to exist more abundantly in belladonna than has generally been supposed. Gehe & Co., of Dresden, have paid particular attention to its isolation, but have only met with indifferent success in their efforts to introduce it into medical practice, though it acts very much like atropine.

Belladonnine has been found to differ from atropine and hyoscyamine by being much more resistant against change when boiled with baryta water. This peculiarity led several experimenters (Kraut, Merling, Ladenburg, Roth) to think that pure belladonnine could be obtained by making use of that fact, and thus the following formulas were successively announced for the alkaloid: Kraut, $C_{16}H_{23}NO_4$, and later, $C_{17}H_{23}NO_3$; Merling, $C_{17}H_{21}NO_2$ for the dry base, and $C_{17}H_{23}NO_3$ for the base as it exists in salts; Ladenburg and Roth, $C_{17}H_{23}NO_4$.

It has been reported and maintained that a new alkaloid, oxytropine, is produced when belladonnine is decomposed. This is now demonstrated by Hesse to be an error;

Photographic Appearance of Maté Tea.

he proves that when belladonnine is split by boiling with baryta water, a homologue of tropine, called pseudotropine by Hesse, is produced.

Some time ago Hesse announced the presence of a new alkaloid in belladonna, to which he gave the name *atropamine*. This is easily extracted from the mother liquor remaining after the crystallization of atropine, by dissolving the alkaloids contained therein in acetic acid, and adding chloride of sodium to the solution until it begins to become opalescent, whereupon hydrochlorate of atropamine will crystallize out. If the original crude alkaloid extracted from belladonna contains much atropamine, it is not necessary first to separate the atropine, but the atro-

pamine may be made first to separate out by following the before-mentioned method. The crude hydrochlorate of atropamine thus obtained is then recrystallized from boiling water, animal charcoal being used as a decolorizer. The alkaloid itself, when set free, appears as a colorless, amorphous mass ("varnish"), which does not solidify sufficiently to permit reduction to powder. At 60° C. it forms a highly mobile, odorless liquid, as clear as water, which when completely free from moisture (after being dried at 100° C.) has the composition $C_{17}H_{21}NO_3$.

At ordinary temperature concentrated sulphuric acid dissolves atropamine without producing a tint; on warming, the solution turns yellowish. Potassium permanganate is reduced by it, but no odor of any kind is noticeable during the reaction.

The salts of atropamine crystallize readily, but when they are moistened with mineral acids and exposed to sunlight or heat they are easily changed to salts of belladonnine.

On investigating the physiological properties of atropamine it was ascertained by Prof. Berlin, of Rostock, that it had no mydriatic effects whatever, but that it caused irritation and inflammation of the conjunctiva.

It is, therefore, positively hurtful [and it follows therefrom that it should be carefully separated from the mydriatic alkaloids proper, viz., atropine, hyoscyamine, and hyoscine].

Belladonnine is formed when hydrochlorate of atropamine is moistened with hydrochloric acid and exposed to sunlight; also by dissolving the alkaloid in cold, concentrated sulphuric acid; also by boiling it with baryta solution, hydrochloric acid, or dilute sulphuric acid. The following is the best method: Hydrochlorate of atropamine is heated with moderately concentrated hydrochloric acid to 80° C. until a sample of the liquid, when diluted with an equal volume of water and mixed with chloride of sodium, no longer yields a crystalline but only an amorphous resinous precipitate.

The composition of belladonnine agrees with the formula $C_{17}H_{21}NO_3$.

Regarding the decomposition products of atropamine and belladonnine we must refer the reader to the original.

Hesse finds that atropamine, just like hyoscine, is not a constant constituent of belladonna. He has been unable to find it in belladonna cultivated in the neighborhood of his laboratories; neither was it present in the leaves of wild-growing belladonna, and the root of the latter usually contained only traces of it. But a considerable quantity of it was found in a belladonna root of unknown origin. At all events, it seems to occur only in the root.

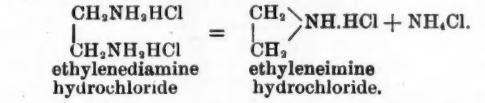
While making these investigations Hesse paid particular attention to the nature of the other alkaloids of belladonna. He found that the *herb of cultivated belladonna* contains scarcely anything but *atropine*. The whole of the extracted alkaloids—that is, the alkaloid mixture—had the melting point 115° C., while absolutely pure atropine scarcely differs from this, melting at 115.8° C. From the leaves of wild-growing belladonna it was obtained in a less pure condition; and in much smaller proportion was it obtained from the roots, which were worked up fresh and with every possible care to exclude any chance of converting any hyoscyamine that might have been present into atropine. Hence atropine will have to be recognized hereafter as a true constituent of belladonna, and not a mere product of conversion derived from hyoscyamine.

Vegetable Bronzes.—1. Extract 10 pounds Brazilwood in soft water, let it stand for eight days in an open vessel, when pour off the clear liquid into a clean vessel. Heat part of it, and dissolve 5 pounds alum therein whilst hot, and mix with the remainder. Let it stand for eight days, strain off the sediment, and preserve it as a paste. 2. Boil 10 pounds logwood twice in water, and mix the solutions, and evaporate down to one-half. Add 10 ounces chloride of tin and strain through a cloth. 3. Prepare the logwood decoction as above; dissolve in it 10 ounces powdered alum and add about 1 ounce bichromate of potash.

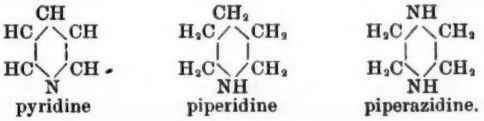
Piperazidine or Spermine.

RECENTLY, under the name "pyrazidinum hydrochloricum," with the synonyms "synthetic spermine" and "Ladenburg's ethyleneimine," a preparation has been placed on the market as probably representing Schreiner's base "spermine," to which attention has been directed, especially in Russia, in consequence of statements made by Dr. Brown-Séquard. In respect to the association of the three names it may be of interest to recall that "spermine" was the name applied by Schreiner in 1878 to a base obtained from crystals separating from spermatic liquid and other organic secretions, in which it existed in combination with phosphoric acid. Schreiner represented the hydrochloride by the formula $C_2H_8N.HCl$, and described the free base as crystalline (*Annalen*, cxciv., 68).

Ten years later Ladenburg and Abel, whilst working upon the imines, found that ethylenediamine hydrochloride could be split up by heat into ammonium chloride and a compound that they looked upon as ethyleneimine hydrochloride, the base of which was possibly identical with spermine (*Berichte*, xxi., 798):



But upon setting free the base, the expectation that it would be a low-boiling compound, volatile at the ordinary temperature, was not realized; and the suggestion that polymerization had taken place was confirmed by the vapor density. In fact, the molecular weight had doubled through the formation of diethylenediimine, or piperazidine. The new compound appeared, however, to correspond closely in all its properties to spermine, except that Ladenburg and Abel failed to obtain a crystalline phosphate, which Schreiner had described as the most characteristic salt, but which, for reasons given, was probably really a double phosphate of calcium and spermine. Whether or not these two compounds are actually identical, it would appear that the compound now introduced is Ladenburg and Abel's diethylenediimine, or piperazidine. In constitution it is a hexahydropyrazine, standing in the same relation to pyrazine as piperidine to pyridine. In fact, piperazidine may be looked upon as piperidine with the CH_2 group in the γ position replaced by NH.



The free base piperazidine is represented as occurring as a white crystalline powder, and the hydrochloride as beautiful small crystalline needles, very soluble in water, tasting like sal-ammoniac, and non-poisonous. Possibly the property of this compound that will prove to be of greatest value is its power to dissolve uric acid, which it is said to possess to a remarkable degree.

Dissolved in cold water, in which piperazidine is soluble in all proportions, it is said to be capable of dissolving twelve times as much uric acid as an equal quantity of lithium carbonate. Piperazidine urate, obtained by boiling piperazidine with excess of uric acid, is described as being seven times more soluble than lithium urate in water at 17° C., the respective solubilities being 1 in 50 and 1 in 368. Even in presence of great excess of uric acid an acid salt is not formed, but only the neutral salt, $C_4H_8(NH)_2C_5H_4N_4O_3$, as from the constitution of the compound might be expected.—After *Pharm. Journ.*

Gold Varnish (proof against air and light).—Digest 2 ounces best garancine in 6 ounces methylated spirit of specific gravity 0.833, in a covered glass vessel, for twelve hours; press and filter. Make a solution of orange-colored shellac in similar alcohol, filter, evaporate it to a clear syrup, and color with the garancine as deep as may be desired.

The Chemistry of Coal.

CARBON and hydrogen form the most important constituents of coal, and it is from these two constituents alone that we derive all the mechanical force when we burn coal. We have now to consider how coal is put together by Nature, and how the powerless materials, carbonic acid and water, become invested with force and converted into powerful matter. The transformation is effected through the agency of plants, and the power with which they become invested is derived from the sun. Light and warmth are necessary to vegetation, and although a minute fraction of light is derived from the stars, and of warmth from the central heat of the earth, yet these are so minute as to be insignificant compared with the light and warmth afforded by the sun; and, therefore, we may affirm that the light and warmth by means of which plants are able to convert these powerless into powerful materials are derived exclusively from the sun.

We have experimented with carbonic-acid water, and with the elements, carbon, oxygen, and hydrogen, composing these bodies, and found that the elements when separate constitute powerful, and, when combined, powerless matter; the separate elements are invested with force, the combined elements are not invested with force. It will be desirable to approach gradually to the consideration of what constitutes the difference between powerful and powerless matter. Here is an iron ball suspended by a string and hanging freely; if it be drawn on one side it differs from the ball at rest, inasmuch as it is invested with force, it is powerful, and when let go swings back beyond its former position of rest. The difference between the two positions of the ball illustrates the difference between the carbonic acid and water on the one hand, and the powerful materials into which they can be decomposed on the other. Here, again, are two suspended magnets. At present they are held fast together by their mutual attraction; if separated to a small distance (by the expenditure of a certain amount of mechanical force) they again rush together, and in so doing are capable of exerting a certain amount of mechanical force. The combined magnets are powerless, the separated magnets powerful bodies; and in this case again we have an illustration of the difference between the combined carbon, hydrogen, and oxygen on one hand, and the separated elements on the other. When the ball or the magnets pass from a state of motion to a state of rest, they each lose something—motion; and that motion can never be annihilated, but is converted into heat. That heat is thus produced on the stoppage of a moving body, the lecturer proved by allowing a moving ball to strike against a substance which readily took fire with a slight increase of temperature. Just as matter becomes invested with power when set in motion, so do the elements which compose carbonic acid and water become invested with power when they are separated; the force necessary to separate them invests them with a large amount of power. You must picture to yourselves chemically powerful matter as particles of matter which have been pulled asunder, and are capable of rushing together again when brought into proper conditions. Starting from the conception of mechanical power, you will not find much difficulty in comprehending somewhat of the nature of chemical combination, and in perceiving the source of the heat and light in the destruction of the motion of the elements which rush together when they enter into chemical combination. In the process of forming coal the solar rays pulled asunder these elements; they transformed the carbonic acid and water first into wood fibre through the apparatus of the plant, and in this way the carbon, oxygen, and hydrogen are invested with an enormous amount of force, equal to that which they afterwards give out when they combine. It is correct to say that the heat and light which we now obtain from coal are a portion of the sunshine of past ages. In this flask there are 139 grains of oxygen, which is just a sufficient amount to combine with the 52 grains of charcoal or carbon put into it. The combination is attended with the evolution of great light and heat, and, in fact, the force of combination is equal to that which would raise 1 ton weight from the floor of this theatre to the ceiling, or which would be generated in the fall of 1 ton weight from that height.

Such are the tremendous forces in action around us; the trees of the forest drink in the sun's rays, and in their action on the carbonic acid and water which are present in the air around them, and in the juices of the plant, they perform the first stage in the manufacture of coal. The sun's light and heat are engaged in the green leaves of the trees in pulling asunder the elements of the carbonic acid and water, and the amount of force thus stored up in one day in a forest of trees is enormous. A moderate-sized geranium may be proved by actual experiment to become invested in one long, bright summer day with an amount of force equal to lifting 1 ton weight to the height of 2 feet. The material furnished by the plant is wood, and in this wood isstored up all the force necessary to transform it into coal; it may now be buried and hid from the sun's light and heat, and requires no more work to be done to it; all the actual work is done when the carbon, oxygen, and hydrogen are pulled apart on the green leaves of the plant. In the condition of wood, however, it contains a considerable quantity of powerless matter—carbonic acid and water—the powerful constituents are loaded, so to speak, with a great weight of powerless matter, and it is the removal of the greater part of this load which converts the wood into coal and renders the latter material so much more valuable. Dry wood contains 40 parts of powerful and 60 of powerless matter in 100. In the presence of moisture wood is subject to decay, it gradually moulders away; but when the air is excluded it gives a material which we know as peat, and which is the next step towards coal. In peat a small quantity of the powerless matter has been got rid of, for it contains 47 parts powerful to 53 parts powerless matter. This chemical process of change—the getting rid of the powerless carbonic acid and water—goes on, and, as may be seen in the lower part of an old peat bog, the material begins to solidify, and this brings us to the next step, which is lignite, or wood coal. This lignite is much used in some parts of Europe as fuel: it contains just as much powerful matter as the wood from which it originally started, and more than the coal which will be derived from it—in 100 pounds there are 58 pounds powerful and 42 pounds powerless matter. Up to this stage no powerful matter has been lost, but in taking the next step, which brings us to coal, a portion of the powerful matter is lost in getting rid of a further quantity of powerless matter. This may be readily seen by the fact that fire damp, which occurs in coal mines, never occurs in lignite mines, and fire damp is the form in which the powerful matter is lost in the conversion of lignite into coal. In fact, lignite loses fire damp, carbonic acid, and water, and yields coal, which has 85 parts powerful to 15 parts powerless matter.

We have in coal a concentrated fuel which in a small space will give out a considerable amount of heat, and heat of considerable intensity; it would not be possible to get from such a fuel as wood the same results we get out of coal. Among coals there are several varieties; there is, for example, the Newcastle coal, which is mostly burned in London; there is Welsh anthracite, which contains more carbon and less hydrogen than Newcastle coal; and there is cannel coal, which contains still more hydrogen than Newcastle coal, and is much used for making gas.

If we examine this marsh gas in the way we examined carbonic acid and water, we find it to be a transparent, colorless gas, lighter than either of the two mentioned gases. It burns with a flame emitting little light but much heat, and in burning it becomes transformed into powerless matter—carbonic acid and water, from which at first it was formed. The flame of fire damp will not pass through a piece of wire gauze, which a flame of hydrogen soon makes red hot and penetrates; hence the possibility of a safety lamp. The safety lamp, however, is not safe under some circumstances; as, for instance, when the gauze has become red hot it is very dangerous, as also when placed in a current, or in the path of the wave of air caused by an explosion. This latter cause has lately been proved to have been one of the most fruitful sources of explosions. Before the invention of the safety lamp, the miner had to content himself in dangerous places with the light of the sparks struck from a piece of flint held against a rapidly revolving steel wheel, and the lecturer showed that these sparks failed to ignite fire

damp, nor had he ever been able to ignite it in that manner, yet those sparks ignite hydrogen very readily.

Thus we have followed Nature step by step in the process of putting coal together, and see what a wonderful substance we have got. Here is a small mass of coal weighing 2 pounds, yet this is invested with such an amount of force that when burnt beneath the boiler of a steam engine it would furnish for an entire hour the force of a strong horse. A steam engine is an imperfect and clumsy machine, in so far as it utilizes but a small part of the total force of the fuel, for the total force in the 2 pounds of coal would furnish the force of ten horses for an hour. In order to produce the same amount of force, we should have to burn 4 pounds of wood.—*Dr. Frankland.*

Source of True Coto Bark.

SOME time ago it was announced by Dr. Th. Schuchardt of Goerlitz, that he had succeeded in obtaining the botanical material (flowers, fruit, leaves, branches, etc.) necessary for determining the source of true coto bark. These materials were placed into the hands of Dr. Karl Schumann, one of the botanists connected with the Berlin Herbarium, who ascertained that they are derived from *Drimys Winteri* Forst., var. *granatensis* Eichl. It is a native of the Provincia de los Andes of Venezuela, growing at a height of 2,500 to 3,000 meters near the borders of the United States of Colombia.

We understand that similar materials have been obtained, entirely independent of those mentioned above, by a prominent botanist of his country, who will probably report on the subject at an early date.

Japanese Bibulous Paper as Substitute for Wafers and Capsules.

DR. ARTHUR HOFFMAN, of Darmstadt, in a paper read before the Hessian Medical Association, reports hereon as follows:

This species of paper, which in Japan bears the name of "Usego," is of a uniform yellowish-white color and silk-like gloss. On the one hand it is of such thin and delicate texture that the finest print can be read through it. On the other it is of astonishing firmness; that is to say, it can be torn but with difficulty.

Dr. Uloth, of Darmstadt, discovered that this paper consists of the bast fibres of the shrub *Wickstrœmia canescens* Meisn. (a Thymelacea), allied to *Daphne Mezereum*, and widely distributed throughout the mountain forests of central and southern Japan.

A piece of the paper 6 Cm. (about 2¼ inches) square suffices to enclose an ordinary medicinal powder weighing, say, 0.5 Gm. (about 8 grains). The powder is placed as compactly as possible in the centre of the paper; the four corners are lifted and tightly united into a small string by twisting them between the thumb and index finger. Any crushing of the small package and all unnecessary crumbling of the paper are, of course, to be avoided. A small paper bag similar in shape to toy torpedoes is the result of the operation.

The twisted portion is then cut off close to the bag, just enough being allowed to remain to keep the bag closed. Treated in this manner, a ½ Gm. (8 grain) powder —of antipyrin, for instance—is scarcely larger than a pea. For administration it is placed on the tongue, and washed down with a mouthful of water.

Arrived in the stomach, the bag unfolds at once, discharging its contents. The advantages of this method over others in vogue may be shortly summarized as follows: In the first place, its extreme simplicity and cheapness, properties that might recommend its employment, especially in hospitals. Another advantage is that the physician, by simply adding to the prescription, "D. ad chart. Japonic.," can have the powders prepared in the pharmacy, ready for immediate use, without additional expense.

The Japanese bibulous paper ("Usego"), as described, is obtainable from E. Merck.

Medicaments administered for a test in the above manner have been traced in the urine after as little as half an hour's lapse; while, on the other hand, no traces of the "Usego" envelope were visible to the naked eye in the stools of the patient, showing the complete disintegration of its tissue in the digestive tract.—*Merck's Bulletin.*

Eucalyptus Honey.

THE following passage is taken from a paper contained in the *Pharm. Journ.* of December 13th, the subject of which is the substance mentioned in the title. The first and main portion of the paper is by Prof. T. P. Anderson Stuart, of Sydney, and the second by J. H. Maiden, of the same city:

This is the latest Australian fraud. The preparation is said to be the natural product of the eucalyptus tree as gathered by the wild bees of Australia, and is reputed to be of great medicinal value. We have examined a sample of this mysterious product, and have no hesitation in declaring that it is a mechanical mixture of leaf eucalyptus oil with ordinary honey. A pamphlet entitled "Note sur le Miel eucalypté, naturel sécreté par les Abeilles noires sauvages de Tasmanie," has been issued by Dr. C. Thomas-Caraman, and the experiments of this physician were communicated to the Académie de Médicine on the 25th of January, 1887. The pamphlet begins with the history of the discovery, which is said to have been made in the year 1884. It is impossible to say what is the exact nature of the substance as originally discovered, but from the sample produced in Sydney, and reputed to be the above, there can be no doubt as to its origin and as to the process of its manufacture.

We fear the learned doctor has been the victim of a practical joke.

[*Note by Ed. Am. Drugg.*—In our volume for 1889, page 137, will be found a communication addressed to us by Mr. Thomas Christy, of London, in which very strong testimony is offered by persons of repute and authority as to the existence of natural honey impregnated with the flavor of eucalyptus and bursaria. The existence of such a honey is not at all remarkable, and will probably find further confirmation. At the same time it is quite possible that some enterprising genius has been trying to improve upon nature and to outstrip the busy bee by manufacturing an imitation, in which the odorous principle was probably added in a profuse and clumsy manner.]

Clarified Honey.

THIS is obtained by E. Dannenberg, of unexceptionable quality, by diluting the crude honey with half its weight of water, boiling for fifteen or twenty minutes, according to the quantity operated upon, the scum being carefully removed, and then adding five or six times sufficient cold water to interrupt the boiling for not over half a minute. After boiling for another fifteen minutes, the hot honey is strained and evaporated. Thus prepared, the author has kept the honey unaltered for over two years.—*Archiv d. Phar.*

The Production of Platinum.

IT is announced from Mexico that M. Flavio Lobato, mining and chemical engineer, has discovered platinum in certain ores extracted from the mines of Las Yedras, in the State of Sinaloa. This news, if it is confirmed, will be of enormous importance to industry, more particularly as platinum is becoming scarcer and realizes an abnormal price.

The platinum mines situated in the Ural Mountains contain, says the *Journal de la Chambre de Commerce de Constantinople*, important auriferous deposits. Until recently gold in large quantities constituted the chief mineral working, and platinum was obtained at the same time without large supplementary expenditure. The richness in gold of the chief mines, Nishnee-Taglisk and Gord-Blagodat, has much diminished, and the preparation of platinum has become more difficult. Such seems to be the explanation of the high price of platinum. A large number of miners have abandoned the mines, and have established themselves on the works of the Trans-Siberian Railway.—*Board of Trade Journ.*

Specific Gravity of Official Syrup.

THE U. S. Pharmacopœia gives the specific gravity of the official syrup as 1.310, of course supposed to be at 15° C. This figure is, however, somewhat too low. Curiously enough, the best authorities differ in their results regarding the specific gravities of sugar solutions of different strength. The most generally recognized authorities are Balling and Niemann. We give a short extract from their respective tables, which are for syrup at a temperature of 17.5° C. (63.5° F.):

Per cent Sugar.	SPECIFIC GRAVITY.	
	Balling.	Niemann.
10	1.0404	1.0367
20	1.0832	1.0830
30	1.1295	1.1293
40	1.1794	1.1781
50	1.2329	1.2322
60	1.2900	1.2882
65 (U. S. P.).	1.3190	1.3160
70	1.3507	1.3430
74	1.3760	1.3650

Linseed and Mustard Meal.

IT is well known that linseed meal is apt to get mouldy and to be attacked by mites. The insect which eats it up is the cheese-mite (*Tyroglyphus Siro*), which can easily be distinguished by a lens. Another mite (*T. longior*) is also found in old linseed meal, but so far we were not aware of its discovery in mustard meal until M. David, a French pharmacist, recently noticed it. He points out that the idea that this mite gives rise to a kind of itch is erroneous. Méguin has shown that the mites live in any medium (such as those meals) until the supply of food is exhausted; then the males and the larvæ die off, and the females undergo a transformation, becoming neuter and growing an abdomen which enables them to attach themselves to any animal or other medium which will transport them to where they can get more food. As soon as the desired haven is reached the insect immediately begins to resume its former shape and sex, and the life-history continues afresh.—*Chem. and Drugg.*

Detection of Olive Kernels as an Adulterant in Pepper.

M. PABST recommends for the detection of this fraud a test paper which has been saturated with dimethyl-paraphenylene-diamine, as proposed by Wurster for detecting mechanical wood paste in paper, or thalline which is used in vegetable histology for coloring woody tissues. The paper is laid on a watch glass, moistened with water, and dusted over with the suspected pepper; particles of the olive kernels are instantly colored red, whilst pepper retains its ordinary color. For preparing this reagent the author mixes 10 Gm. of commercial dimethylaniline with 20 Gm. of pure concentrated hydrochloric acid. He then adds 100 Gm. of powdered ice, and then by degrees, whilst stirring, a solution of 7 Gm. sodium nitrite in 100 C.c. of water. The reaction is let go on for half an hour. He adds then 30 to 40 Gm. of hydrochloric acid and 20 Gm. of tinfoil, and allows the reduction to continue for an hour, and then precipitates the tin by means of granulated zinc. The liquid is decanted through a filter, then neutralized with potassium or sodium carbonate until a permanent turbidity is produced, which is redissolved by means of a few drops of acetic acid. Ten Gm. of concentrated sodium bisulphite are added, and the whole is made up to 12 liters with water. The same reagent shows the presence of ground wood, nutshells, etc. Thalline sulphate dissolved in 200 parts of water colors the olive kernels a very fine orange, which is produced more slowly than the red of the former test; and, further, this solution does not keep well.—*Monit. Scient.* in *Chem. News.*

Bleaching with Sodium Hydrosulphite.

THE bleaching process with sodium hydrosulphite, which has been industrially employed since 1883, yields excellent results; but, as is also the case with bleaching by sulphurous acid, the fibres thus bleached are unfit for dyeing. For the production of hydrosulphite about 300 liters sodium bisulphite, 35–40° B., are put into a pine-wood tub of 500 liters capacity, to which scraps of pure zinc are added until they reach the surface of the liquid (the volume of metal must not be more than a quarter of the total volume), when the tub is covered up. In order to prevent a too high temperature, earthenware tubes are inserted into the tub, in which cold water circulates. After one hour the liquid is drawn off into a tub, which is always to be kept full, covered, and allowed to stand for twelve hours, when an abundant amount of zinc sodium sulphite has crystallized out. The remaining liquid portion is the bleaching agent. As the latter by the contact with the air is apt to be converted into sodium bisulphite with rising temperature, the tubs for the production of hydrosulphite, as well as for bleaching with it, must always be kept as full as possible and carefully covered.

For bleaching, the material is first well cleaned—*i.e.*, treated with sodium carbonate and then with soap—and entered into a 1,000-liter tub containing a mixture of the bleaching liquid with an equal volume of water, taking care that the tub is nearly filled. After standing covered for six hours the yarn is well wrung and piece goods passed through pine-wood squeezers above the tub. Then the material is at once washed in filtered water; if this washing is delayed the fibres are, by the contact with the air, rapidly heated up to 70–80°, and largely altered. Sometimes goods thus bleached after finishing show stains which are attributable to remnants of zinc sodium sulphite. They are removed by passing the pieces through a cold, very weak bath of hydrochloric acid, and washing in abundant water.

With one single bleaching tub, 3,000 pieces of woollen goods at 100 meters each—*i.e.*, about 36,000 kilos wool—can be bleached per year. About 100 kilos zinc serve for several years, because the undissolved metal can be rendered serviceable for further use by washing it with abundant water which is feebly acidulated with hydrochloric acid. The price of bisulphite is about 25 fr. ($5) per 100 kilos.

When the bath falls below its original level, it is filled up with dilute hydrosulphite, whereby the strength of the bleaching bath is preserved for almost an unlimited period. In a tub of 1,000 liters capacity, about 130 kilos wool can be entered at a time, the cost amounting to about 1.36 fr. per 10 kilos fibre. The simple and cheap process, which in some factories has been used for several years, is probably destined at no distant time to supersede the ordinary bleaching methods.—G. DOMMERGUE, *Chem. Ztg.*

White Ants in India.

THAT species of termes known as the white ant is very abundant in India, and is dreaded by all European residents, on account of its extraordinary ravages, especially in the larva state, in which it is truthfully called a worker.

The workers unite in colonies of countless numbers and take up their abode in the ground, in wood, on the ceiling or roof of a house, making tunnels and forming routes which lead to the centre of their nests.

Their deeds are deeds of darkness, for so ingenious are they that they form the tunnels inside and leave the surface of the door or beam intact.

I was standing by the door of our parlor, says C. M. Wherry, in the *Graphic* (Chicago), talking to a friend, and, on putting my hand upon the door frame, found that it was hollow. On further examination it was found to be filled with earth along one side, which the termes had deposited as they worked their way through.

One morning our sweeper removed a pile about two feet in height from our dining-room floor, but the energetic creatures, nothing daunted, began their work over again, and by the next morning the pile was a yard in height from the floor and up the side of the wall.

Day after day the sweeper wielded his broom over the

spot until he was forced to the conclusion that they meant to conquer him.

As a last remedy, after a great many experiments, he poured a gallon of kerosene over the spot and was exceedingly rejoiced to find that at last they had been driven away after two weeks of hard fighting. But alas! his spirits sank within him when one morning a few days later he found the pile higher than ever.

It became necessary to dig for the queen, as after her expulsion no more are hatched, and they gradually disappear. A hole in the cement floor was dug in which a horse could have been buried, before the queen was found in the centre of her colony.

The abdomen of the queen becomes very much distended with the innumerable eggs which it contains. It is said that one such insect has been known to deposit 80,000 eggs in one day. The larvæ are a creamy white, and transparent enough to show the substance in the body with which the tunnels are moistened when in construction.

After a time they acquire wings, and, flying about during the night, lose them. Being particularly attracted by lamplight, many swarm around the drawing-room lights until the floor is quite littered with the wingless creatures, which soon become the prey of lizards and toads, and, by daylight, of birds. The natives do not eat them as the Africans do.

On account of their secret ravages, the houses of Europeans and of most natives are usually only one-story high, with plastered floors and roofs of earth or grass, which can be renewed every few years.

I have known of people being severely injured by the falling of a heavy mud roof, caused by the white ants having eaten out portions of a heavy beam. So common are they that railroad ties and telegraph poles are often made of iron, as nothing but metal seems to be impervious to their waste.

Trunks and boxes must be kept off the floor, on bricks at each corner, or on stands made for the purpose. It is a common occurrence to walk into a room some morning and find a carpet eaten in several places, or a box of clothing tunnelled through and through, from which you could not get a square large enough for a table napkin. Thus a housekeeper's life becomes one of everlasting vigilance.—*Scientific American.*

Ivory Composition.

A NEW composition, which is to be "used as a substitute for ivory and for other purposes," but which contains a good deal of ivory in the dust form, has been patented by Mr. I. Appletree, of Sheffield, England, who states that his invention is for a new composition or material intended to be used as a substitute for ivory, for the handles of articles of cutlery, billiard balls, and any other articles to which it may be suitable; it is hard and durable, non-inflammable, and may be produced of any desired color or colors. The basis of the new material is preferably ivory, by the use of which term the patentee does not limit the material to the tusks of the elephant, but includes other similar tusks and teeth, such, for example, as those of the walrus. To produce an inferior quantity of material he may also use bone of the kind now used for handles. He uses what may be termed "waste" ivory, such as made by the ivory cutter, in pieces, cuttings, or as dust, the pieces or cuttings being ground down or pulverized before mixing with the other component parts. The material is composed of the following constituent substances and liquids, in the proportions stated, or thereabouts, namely: Granulated or pulverized ivory, 80 parts; isinglass, 20 parts; French chalk, 5 parts; water, 40 parts; gin, 2 parts; cotton wool, 2 parts, according to weight. The above-named substances and liquids are placed together in a boiler, by preference one having an enamelled lining, and heated by the application of, or immersion in, a surrounding bath of boiling water. The mixture is kept constantly stirred either by hand or by mechanical means for a period of about ten hours or thereabouts, until it assumes the consistence of paste; it is then removed from the boiler, placed upon a cool slab, and subjected to a short process of rolling, or similar manipulation, during which process it becomes comparatively cool. The prepared paste is then either divided into portions or taken in the bulk, and after being placed in a suitable mould, or number of moulds, according to the object or purpose for which it is required, it is subjected to great pressure in a press of any suitable construction, such, for example, as a hydraulic press. In the manufacture of handles for table cutlery, the patentee prefers to press the paste into slabs, and then to saw the slab into oblong strips of a size suitable for the handle. It should be understood that the fialments of the cotton wool should be separated either before or during the mixing process, so as to be equally spread or divided amongst the body of the material or paste.

Syrup of Yerba Santa.

MR. HERMAN C. CLEVELAND, in a thesis presented to the Buffalo College of Pharmacy, recommends to prepare a fluid extract of yerba santa, suitable for making the syrup, in the following manner:

Eriodictyon leaves, in No. 40 powder	16 tr. oz.
Potassium Carbonate,	
Water of Ammonia,	
Alcohol,	
Water	each a sufficient quantity.

Mix the water of ammonia with water in the proportion of 1 part of the former to 7 parts of the latter. Moisten the drug with 8 fluidounces of this menstruum, and pack it firmly in a cylindrical percolator; macerate during twenty-four hours, then percolate slowly until 3 pints have passed. Add to this the potassium carbonate, and evaporate until a pasty residue is left. Mix this thoroughly with 8 fluidounces of alcohol gradually added. Let the pasty precipitate subside, and decant the supernatant liquor; to the residue gradually add 8 fluidounces of alcohol as before. Pour this mixture upon a strainer and force the liquid out. Should this second extraction measure more than is needed to complete the intended volume of fluid extract (16 fluidounces), dissipate the excess of alcohol by appropriate means, unite the residue with the first extraction, set the mixture aside for twenty-four hours, and decant the clear fluid extract from the scant crystalline deposit meanwhile formed.

A *syrup* may be prepared from the fluid extract in the proportion of 1 ounce of fluid extract to the pint, and should be made according to the following formula:

Fluid extract of Eriodictyon	1 fl. oz.
Calcined Magnesia	½ av. oz.
Water	7½ fl. oz.
Sugar	14 av. oz.

Mix the fluid extract with calcined magnesia, and add the water gradually, with constant stirring; let it stand twenty-four hours and filter; add the sugar and dissolve with the aid of gentle heat.—*Pharm. Journ.*

Rosolic Acid.

THE coloring matter formed by the action of concentrated sulphuric acid upon salicylic aldehyde is very readily formed. The mixture needs only to be heated for an instant at a steam heat, when it is transformed nto a solid red mass. This product dissolves in alkalies with a violent red shade. Acids precipitate it in red flakes. It presents a great analogy with rosolic acid, but it is distinguished by the slighter solubility of its magnesia salt, by the red color of its salts and of the precipitate given with acids.

The formation of rosolic acid from salicylic aldehyde is explained by the previous production of phenol. This has led to a study of the influence of phenol upon this reaction, and to see if true rosolic acid could thus be formed. Experiment has confirmed this idea.

A mixture was made of 1 part of phenol, 2½ parts salicylic aldehyde, and 1 part of sulphuric acid diluted with one-third its weight of glacial acetic acid. Heat is disengaged to such an extent that cooling is necessary. To complete the reaction it is boiled in the water bath, and the resinous product is purified in the ordinary manner. The rosolic acid thus obtained is identical with that of Kolbe and Schmitt.—*Ber. Berlin Chem. Gesell.*

Peanut Lore.

NORFOLK, VA., is the greatest peanut centre in the world, and handles annually 200,000 bags, or 800,000 bushels. It is a pretty sight to see a peanut plantation when the vines are in blossom. The blossoms are a bright yellow and the vines a vivid green. No, the nut does not grow from the blossom. As soon as the blossom appears, a fine branch forms on the vine and shoots down into the ground. The peas, as the nuts are called on the plantations, form on the shoot beneath the ground, like potatoes. When the crop is gathered in October the vine is ploughed up and the nuts hang to the roots. Vines and all are piled in cocks in the field, and in twenty days the nuts are ready to be pulled off, placed in bags, and taken to the factories. There they are cleansed of dirt, assorted, polished in revolving cylinders and ready for the consumer, whether he is the old soldier with the peanut habit or the lover of the nut smoking hot from the roaster.

Petroleum.

THE formation of petroleum has been explained by Mr. B. Byasson upon experimental grounds, as follows: If a mixture of vapor of water, carbonic acid, and sulphuretted hydrogen be made to act upon iron heated to a white heat in an iron tube, a certain quantity of liquid carburets will be formed. This mixture of carburets is comparable to petroleum. The formation of petroleum can thus be naturally explained by the action of chemical forces. The water of the sea, penetrating into the cavities of the terrestrial crust, carries with it numerous materials, and especially marine limestone. If the subterranean cavity permits these new products to penetrate to a depth where the temperature is sufficiently high, in contact with metallic substances, such as iron or its sulphurets, we have a formation of carburets. These bodies will form part of the gases whose expansive force causes earthquakes, volcanic eruptions, etc. Petroleum is always found in the neighborhood of volcanic regions or along mountain chains. In general it will be modified in its properties by causes acting after its formation, such as partial distillation, etc. Petroleum deposits will always be accompanied by salt water or rock salt. Often, and especially where the deposit is among hard and compact rocks, it will be accompanied by gas, such as hydrogen, sulphuretted hydrogen, carbonic acid, etc.

Exercise for Health and Beauty.

FEW theories are carried to a more unwarranted extreme than that of the importance of physical exercise and muscular development. Because exercise improves health, and muscle is a fine thing to own, half-educated reformers preach exercise and muscle as if there could not be enough of them. Any plain-spoken physician will say at once that there can be too much exercise, and that unwise forms of exercise can be injurious. He will also say that there is very slight essential connection between muscle and that supreme physical quality, vitality. Many a man has developed muscle at the expense of vitality, and many a nervous temperament has impaired health by dragging itself through exercise when it needed rest. Muscle is all right in its proper place, but ahead of it come heart, lungs, brain, and stomach. Cultivating muscle does more for beauty, probably, than for health; and since beauty is really one of the proper objects of effort, the forms of exercise which bestow most symmetry of outline and grace of movement are to be studied. One of the women writers who deal out instruction to the sex has recently advocated running. She is nearer the right track than most of the didactic writers of her kind. Running is the great beautifier of figure and movement. Running gives muscular development, strong heart action, and free lung play. The muscle comes where it ought to be, the shoulders go back, the loins hold the trunk well balanced, and the feet take their correct positions. It was running which made the Greek figures. The more active tribes of American Indians have been runners from time immemorial, and from the chest to the heels they are much more beautifully built than the average of white men. Running peoples have usually the firm but elastic texture of flesh which is the beauty of flesh. We know infinitely more about taking care of the human body than Greeks or Indians, and if we would train our children to regular and wisely supervised running exercise, supplemented with other exercises for the hands, arms, and shoulders, we could surpass them in beauty and activity. A general adoption of such a system seems very far from likely, since we have none of the appropriate grounds or apparatus. The next best thing is walking, but most of us walk on our heels, and lift up the feet instead of springing forward with them and driving the body on with the back muscles of the legs. Fashionable people will pay high prices for grooms and riding-masters to go out and teach correct horseback movements, but whoever saw a man, woman, or child with an instructor in walking? Yet horseback riding is a trifle beside good walking in its effect either on health or on those qualities of figure and carriage which the whole world holds in high estimation. Gymnasium exercise is so easily overdone, and may be so injurious in some cases, that it is doubtful whether anybody should go in for the gymnasium strongly without the superintendence of a skilled physician in at least the early stages.—*Kansas City Times.*

Keeping Cider and Apples.

A CORRESPONDENT of the Elmira Farmers' Club says: "If your members wish to keep cider fresh and nice as new, they will succeed by doing as follows: Take the cider fresh from the press, heat it to a boiling point and skim, then bottle and seal up hot. It can be put in jugs or casks. I have put it up so for the past five years, and find it to improve with age.

"A word about saving your apples. You can have fresh apples by packing them in dry hemlock sawdust, as you would eggs in salt. We have them fresh until the new crop is gathered. They should be put in piles to sweat before packing."

Permanent Solution of Litmus.

IT is well known that solution of litmus, made with plain water in the usual way, soon begins to lose its color and its value as an indicator in alkalimetry. This bleaching of the litmus solution is not due, as has been alleged, to the absorption of gases from the atmosphere. From the method of its production it will readily be understood that litmus dissolved in water forms an excellent nidus for the development of micro-organisms, and it is to the presence and growth of these organisms that the loss of color is to be attributed. They require for their growth a supply of oxygen, and this is obtained from the coloring matter of the litmus, which is thereby reduced to a colorless body.

By exposure to the atmosphere oxygen is again absorbed and the solution becomes blue; hence the common expedient of preserving solution of litmus by keeping it in an open or loosely stoppered bottle. I have recently made some experiments with various antiseptics with a view to discover some simple means of overcoming the deterioration to which this solution is liable. I find this object is most satisfactorily attained by substituting chloroform water for distilled water in making the solution. I have here two samples of the solution. The one is made with distilled water, and you will observe that the characteristic litmus color has, to a considerable extent, disappeared. The other has been made with chloroform water, and is practically as good and as deep colored as when it was made.

Both samples have been kept upwards of seven weeks. The use of chloroform water thus secures a permanent solution of litmus and does not in any way interfere with its use as an indicator.—WM. DUNCAN, *Pharm. Journ.*, January 3d.

Prof. Orton, State geologist of Ohio, says that the natural gas supply is rapidly and surely being exhausted. The way in which the gas is wasted makes the average stranger sick at heart. Great roaring wells, huge batteries, of the cheapest and most wasteful types of boilers, blowing off steam night and day, empty furnaces kept hot for weeks at a time, strike him as crimes against the economy of nature.

Tests for Absolute Alcohol.

It is exceedingly difficult to prepare an absolutely "absolute" alcohol, or, if prepared, to examine it physically and chemically, since it has an extraordinary affinity for moisture. It is owing to this fact that the exact boiling point and specific gravity of really absolute alcohol are, even at the present date, not determined beyond doubt. The best commercial alcohol is always from 1 to about 0.3 per cent short of being absolute. However, for practical purposes a strength of about 99.7 per cent is sufficient. The presence of more than about 0.5 per cent of water can be detected by adding anhydrous sulphate of copper (which is white) to the alcohol. If the alcohol is absolute, or nearly so, the salt will remain white; otherwise it will become bluish or blue.

Detection of Impurities in Alcohol.

This subject has recently been reinvestigated by E. Mohler (*Compt. Rend.*, 111, 187). The reagents which gave the best results are sulphuric acid, magenta acid sulphite, aniline acetate, and potassium permanganate.

Sulphuric acid should be added in a volume equal to that of the alcohol. With a larger proportion, even pure alcohol gives a coloration; with a lower proportion the reaction is less sensitive. The following are the minimum proportions per liter which can be detected: furfuraldehyde, 0.010 Gm.; capryl alcohol, 0.050; isobutyl aldehyde, paraldehyde, acetaldehyde, and isobutyl alcohol, 0.125; propionaldehyde, œnanthylaldehyde, valeraldehyde, and amyl acetate, 0.250; formylcarbinol, acetylcarbinol, heptyl alcohol, and amyl alcohol, 0.500 Gm.

Alcohol containing 0.1 per cent of butaldehyde, acetone, propyl, isopropyl, butyl, and methyl alcohols, and ethyl acetate, propionate, butyrate, isobutyrate, valerate, caproate, œnanthylate, sebate, benzoate, and salicylate, give no coloration.

Magenta bisulphite varies in its action, according to the proportion of acid which it contains. The following solution gives good results: Magenta solution (1:1000), 30 C.c.; sodium bisulphite, 34° B, 20 C.c.; sulphuric acid, 3 C.c.; water, 200 C.c. Ten C.c. of the alcohol under examination are mixed with 4 C.c. of this solution and allowed to remain for half an hour; it will detect in alcohol of 50° the following minimum quantities of impurities per liter: acetaldehyde and œnanthylaldehyde, 0.01 Gm.; valeraldehyde, 0.02; propionaldehyde and isobutaldehyde, 0.05; paraldehyde, furfuraldehyde, butaldehyde, and acetone, 0.50. Alcohols and ethers have no effect on the reagents; the color developed is not proportional to the quantity of aldehyde present.

Aniline acetate is the special reagent for furfuraldehyde, and is not affected by other aldehydes, or by alcohols or ethers. Within somewhat wide limits the color is independent of the proportions of aniline and acetic acid, but the best results are obtained by adding 10 drops of aniline and 2 C.c. of glacial acetic acid to 10 C.c. of the alcohol, allowing the mixture to remain for half an hour. The reaction will detect 1 part of furfuraldehyde in 1,000,000, and even in 10,000,000, and it may be applied in quantitative estimations.

Potassium permanganate in acid solution is immediately decolorized by paraldehyde, isobutaldehyde, and isobutyl alcohol. The reduction is very distinct, and is proportional to the quantity of these compounds present; it may, therefore, be applied in a quantitative manner. Acetaldehyde in the proportion of 1 in 1,000 has no immediate reducing action on the permanganate.—After *J. Chem. Soc.*

Test for Resorcin and Thymol.

H. Borntraeger communicates the following new reactions for the recognition of resorcin and thymol:

Both of these bodies, when brought together with nitrous acid under gentle heat, produce a red or reddish color. Resorcin turns blood-red; thymol yellowish-red. The best way of producing the reaction is to add nitrous acid, best in *statu nascenti*, to a previously acidified solution of either body. If alcohol is used as solvent of the latter, both solutions remain clear. If water is used, the resorcin solution remains clear, but the thymol solution will show copious flakes of a yellowish-red color. In the case of thymol there is at the same time noticeable the pleasant, fruit-like odor of nitrite of thymol. The difference in the color reactions is not very great, hence the odor reaction affords a distinguishing criterion. But there is still a further way of distinguishing them, as follows: Mix in a test tube about equal quantities of calcium sulphate, sodium bisulphate, and a nitrite [sodium nitrite], moisten with water, add the liquid to be tested, and warm. If thymol is present the mixture assumes a chrome-red color; if resorcin, the color is chrome green, while fuchsin-colored drops are noticeable in the upper part of the test tube. This test requires that the solutions be acid.

Both tests are very delicate, responding even in highly dilute solutions; they are also quite persistent.—After *Zeitsch. f. anal. Chem.*, 1890, 572.

Note on Aluminium as a Reducing Agent.

The fact that metallic aluminium, when in contact with solutions of soda or potassa, causes the evolution of hydrogen, is frequently made use of in analysis—for instance, in Fleitman's test for arsenic; also in the estimation of nitric acid, which latter is completely reduced to ammonia. Formerly aluminium was always prepared by the intervention of metallic sodium, but no one suspected that possibly the presence in aluminium of a minute quantity of sodium, remaining as an impurity, would be a necessary condition for success. A recent communication of Prof. A. Stutzer, of Bonn, renders this highly probable. The latter has been accustomed for years to determine nitrate by reducing it to ammonia by means of aluminium. But recently his supply of aluminium gave out, and when he procured a fresh lot it was found that this dissolved in caustic alkalies only with great difficulty. This aluminium appears to have been made by the new process, in which no metallic sodium is used. Prof. Stutzer has since succeeded in obtaining a new supply of aluminium made by the old method, which he thinks will last some years. It is evidently desirable that other chemists should remember this fact, and try to procure supplies of the old kind. If this should fail, however, it will not be difficult to prepare some aluminium similar to it. Stutzer found that it contained not quite 1 per cent of sodium.—After *Zeitsch. f. angew. Chem.*, 1890, No. 23.

To Distinguish Arsenic from Antimonial Stains.

Professor G. Denigès, of the Bordeaux College of Pharmacy, has proposed a simple test to distinguish arsenic from antimony stains in toxicological investigations.

The suspected stain on the porcelain dish is to be sprinkled with a few drops of pure nitric acid. After a slight heating, to complete oxidation, 4 or 5 drops of ammonium molybdate (in nitric acid) are added.

With antimony stains no change occurs, while with arsenic, even in quantities as small as one-fiftieth or one-hundredth of a milligramme, a yellow precipitate of ammonium arseniomolybdate can easily be noticed and identified.—Paris Correspondent of *Chem. and Drugg.*

Determination of the Fatty Acids in Soap.

For the determination of the fatty acids in soap, M. Saupe recommends the following method, which is substantially the same as that employed by Liebermann and Wolff for the determination of fat in milk: Two Gm. of the finely-cut-up soap are dissolved in a separating cylinder with 50 C.c. of water, 5 C.c. of hydrochloric acid are then added, and the free fatty acid is extracted with 54 C.c. of ether *saturated with water*. After the ether has separated, 20 C.c. are measured off into a beaker, the ether evaporated, and the residual fatty acids weighed.—*Chem. Centr.*

Glycerin Suppositories.

MR. BALLAND finds that good and permanent glycerin suppositories may be prepared in the following manner:

Glycerin	2 parts.
Lanolin	2 "
Cacao Butter	1 part.
White Wax	1 "

Melt the lanolin, wax, and cacao butter, then add the glycerin. Mix intimately, and at once pour into moulds which had been set into a freezing mixture of salt and ice. The glycerin is thus prevented from separating.

Each suppository is made to weigh 6 Gm. (90 grains).—After *Répert. de Pharm.*

Clear Mucilage.

A CORRESPONDENT of the *Pharmaceutische Zeitung*, referring to the difficulty of keeping gum-arabic mucilage clear and sweet during the warm weather, states that a little ammonia generally suffices to counteract the acidity. But this is objectionable because of the darkening of the color which is apt to ensue. Of all neutralizing agents there is none better than lime, and it will be found to be advantageous to make the mucilage with a mixture of 1 part of lime water and 4 parts of plain water.

Gutta-Percha Cements.

AN elastic gutta-percha cement is especially useful for attaching the soles of boots and shoes, as, on account of its great elasticity, it is not liable to break or crack when bent. To make it adhere tightly the surface of the leather is slightly roughened. It is prepared by dissolving 10 parts of gutta-percha in 100 parts of benzin. The clear solution from this is then poured into another bottle containing 100 parts of linseed-oil varnish, and they are well shaken together.

A very adhesive cement, especially adapted for leather driving belts, is made by taking bisulphide of carbon 10 parts, oil of turpentine 1 part, and dissolving in this sufficient gutta-percha to form a paste. The manner of using this cement is to remove any grease that may be present in the leather by placing on the leather a piece of rag and then rubbing it over with a hot iron. The rag thus absorbs the grease, and the two pieces are then roughened and the cement lightly spread on. The two pieces are then joined and subjected till dry to a slight pressure.

A cement for uniting india rubber is composed as follows: 100 parts of finely chopped rubber, 15 parts of resin, 10 parts of shellac; these are dissolved in bisulphide of carbon.—*Chem. and Drugg.*, from *India R. World.*

Remedies against Worms and Insects.

THE insect question is a very important one; they will destroy us if we don't destroy them. The following modes I use as occasion demands, and never fail:

Melon and cucumber bugs like radish leaves better than any other kind. I sow a few radish seeds in each hill, and never lose a plant. Earth worms, cut worms, white grubs, and, in fact, all soft-bodied worms, are easily driven out by salt sown broadcast. You can do no harm with ten bushels to the acre, but a half bushel is ample. Dry slacked lime is also effectual. Potato bugs find their "anti" in Paris green one tablespoonful, flour ten spoonfuls, water one bucket; mix, and keep mixed, as the Paris green settles; apply with a watering pot.

For cabbage worms apply dry salt if the plants are wet, or strong brine if they are dry.

Turnip flies are destroyed by fine slacked lime dusted over the field.

But the whole tribe of depredators are wonderfully kept down by making friends with the birds. They are the natural enemies of all insects, worms, grubs, etc.

In fighting vermin we must not try to oppose nature, but to rather follow her plans, and assist her if she fails.—*Canada Farmer.*

Corn Cure.

Extract of Indian Hemp	5 grains.
Salicylic Acid	30 "
Alcohol	½ drachm.
Ether	1½ "
Flexible Collodion	4 "

Place the extract in an ounce bottle and pour the spirit on it. Shake occasionally until dissolved. Measure the ether and put the acid upon it; it will dissolve by a few stirs with the glass rod. Pour this into the bottle, mix, and add the collodion. Instead of extract of Indian hemp (which is merely employed as an anodyne) 2 grains of cocaine (*not* hydrochlorate) may be used. The recipe otherwise remains the same.—*Chem. and Drugg. Diary.*

Administration of Sulphonal and its Allies.

G. LUNAN, of Edinburgh, has patented a process by means of which the disulphones—such as sulphonal, trional, tetronal, etc.—are rendered more readily assimilable. For this purpose these bodies are dissolved in chloroform, ether, etc., and the dissolved drug separated in an amorphous condition either by precipitation with water or by evaporating off the solvent. The drugs thus prepared, or whilst still in solution, are acted on by an oleaginous solvent such as olive oil, castor oil, hydrocarbon oil, or jellies, whereby they are obtained in a more soluble form, and one in which they possess an improved physiological action. They may then be enclosed in a flexible gelatin capsule or other suitable material.—Engl. Pat. 18,434 (November 19th, 1889).

Dangerous Ink.

THERE has recently been placed upon the market in Europe an ink which seems to be identical with a preparation advertised about twenty years ago as "disappearing ink," the sale of which was finally prohibited by the Government on account of the dangerous use it was put to by unscrupulous parties. The ink is a watery solution of iodide of amylum. It produces beautiful blue-black writing, which begins to fade after a few days and disappears entirely after the lapse of a week. It can be easily imagined how dangerous this ink can be when used by swindlers for notes, acceptances, etc., but, on the other hand, many a politician in the United States might have paid liberally for a bottle, had he known of its existence.

About Leprosy.

A NOTABLE contribution to the discussion as to the cause of leprosy is that by Mr. Jonathan Hutchinson in the *Friends' Quarterly Examiner*. Noting the parts of the globe where leprosy is still indigenous, Mr. Hutchinson points out that these are either on the sea coast or in proximity to rivers or lakes, whilst the climatic and racial conditions are extremely varied. He considers the evidence certain that the poison producing the disease gains access to the body in the form of food, and that this must be through "fish,' including "edible mollusks, crustaceans, and all living denizens of water, both salt and fresh." "It may be," he adds, "that the poison is wholly absent from fish under most conditions, and present only under exceptional ones. It seems very probable that fish caught in the warm waters of the tropics are more dangerous than those from northern seas, and that all kinds of preserved or salted fish, or fish in a state of partial decomposition, are more risky than those which are fresh and sound. Lastly, it is possible that raw fish may contain a poison which is destroyed by cooking." There is, however, very little doubt that leprosy is a contagious disease.

Green Varnish.—Boil 15 parts of powdered resin in 18 parts of water in an iron pot. Add slowly 2 parts of soda crystals dissolved in 5 parts of water, and boil again; add as much more soda in solution, and boil till all the resin has disappeared. Cool, and let it stand till quite clear. Mix the clear liquid with sulphate of copper in solution as long as a precipitate is formed, filter off and dry. It dissolves in oil of turpentine, forming a fine green varnish.

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EDITORIAL.

A RECENT editorial in *The New Idea* discusses the present and past nomenclature of alkaloidal salts, and quite correctly points out where this is in conflict with chemical nomenclature used in other departments of chemistry, or with the prevailing theories of the composition of these salts. A proposition is then advanced that salts containing non-oxygenated acids should be called *hydro-ides* (this is, of course, not new), and salts containing oxygenated acids, *hydro-ates*. Thus we would say *Quinine Hydrobromide*, in place of the present quinine hydrobromate; and *Morphine Hydrosulphate*, in place of the present morphine sulphate. It is generally acknowledged that the first part of the proposition, which was thoroughly discussed in the journals some years ago, is sound and deserves adoption. In fact, it has been so adopted for a number of years by many chemical writers, and also recently by the new German Pharmacopœia. But we have decided objections against the second proposition, not on theoretical grounds, on which it is quite defensible, but on practical ones. Does any one believe or expect that more than a dozen or so of the physicians of this country would ever prescribe the morphine or quinine salts as follows?

℞ Morphinæ Hydrosulphatis..... grains....

or

℞ Quininæ Hydrosulphatis ..... grains....

We venture to predict that not more than one in a thousand would do it. And if he did it, he would certainly abbreviate; most likely he would write:

℞ Morph. Hydrosul..... grains....

or

℞ Morph. Hydros..... grains....

or

℞ Morph. Hyd..... grains....

so as to leave the dispenser in real doubt as to what salt the prescriber meant. Considerations of *safety* should outweigh any theoretical speculations or any attempts to produce theoretical uniformity. We are, therefore, decidedly of the opinion that we ought to leave well enough alone, and to be satisfied to have the physician write hereafter, as heretofore:

℞ Morph. Sulph..... grains....

which nobody can misunderstand.

THE new Addendum to the British Pharmacopœia, which had for some time been in course of preparation, has been completed, and was issued during December last.

The Committee of the British Medical Council having the matter in charge, in conjunction with the editor, Prof. Attfield, have made certain alterations in nomenclature in the case of substances protected by patents, with a view of overcoming the objections raised against these articles on ethical grounds. Whether practitioners will readily adopt this nomenclature remains to be seen. We doubt it very much.

It had been resolved, among other things, to introduce lanolin, saccharin, and antipyrin. For the latter the curious name "phenylon" had been proposed. We now find the following terms used:

1. For *Lanolin:* "*Adeps Lanæ Hydrosus*"—"Hydrous Wool Fat." This is directed to be prepared by mixing 7 parts of wool fat (see below) with 3 parts of water. In a foot note it is mentioned that "hydrous wool fat" is commonly known as lanoline, which is a registered trademark in the United Kingdom. The *Chemist and Druggist* points out that the admixture of wool fat with water is protected by *patent* in Great Britain (No. 4992 of 1882), and that, as the owners of the patent have a keen appreciation of its value, it would be a risky thing for any apothecary to make the "Adeps Lanæ Hydrosus" of the British Pharmacopœia; that it would, consequently, be safer to *buy* lanoline.

2. For *Saccharin:* "*Glusidum*"—"Gluside." This name is, of course, intended to convey the idea of sweetness, being a corrupted derivative from the Greek "glykys," sweet.

In the course of the description it is stated that the aqueous solution, when neutralized with sodium bicarbonate, yields, on evaporation to dryness, "soluble gluside" or "soluble saccharin," which is very soluble in water.

3. For *Antipyrin:* "*Phenazonum*" — "Phenazone." The Addendum says: "Phenazone is commonly known as 'Antipyrine,' which is a registered trade-mark in the United Kingdom." As a synonym, "phenyl-dimethylpyrazolone" is given. According to the *Chemist and Druggist*, the editor of which received an advance copy, the characters and tests are like those given by the German Pharmacopœia; but the isonitrous reaction is performed with sodium nitrite and sulphuric acid, instead of with crude nitric acid alone (which the German Pharmacopœia requires), and the melting point is given as 110° C., against 113° C. in the German Pharmacopœia.

4. Nitroglycerin, or glonoin, has been introduced under the name *Trinitrina*, English "trinitrin." We should have expected that the Latin word would be made to end in *inum*, in accordance with the nomenclature elsewhere adopted (glycerinum, etc.). Incidentally we may mention that we are not in accord with the nomenclature recently proposed by a Committee of the American Association for the Advancement of Science, so far as the termination of alkaloids and neutral principles is concerned. We prefer *ina* (English *ine*) for the former, and *inum* (English *in*) for the latter, and believe that there is a suf-

ficient number of authorities following this spelling to warrant its permanent retention.

It would be highly desirable to ascertain how far the new names prescribed by the British Pharmacopœia for the three p ıtented or proprietary articles above mentioned will be followed by prescribers. Price lists of wholesale and manufacturing houses will no doubt be made to retain the firmly established commercial name, and druggists or physicians ordering the articles will likewise stick to the old terms. We know from our own experience how difficult it is to induce people to change a familiar nomenclature. Wholesale houses bear a large share in this. To the present day, the price lists of most manufacturing chemists in the United States quote, for instance, *Chrysophanic Acid*, and omit *Chrysarobin*, though the former is wrong, and the latter the official name. It is even a notorious fact that the salesmen in some of these houses, when asked for a quotation of "chrysarobin," state that this article is not kept by their house, as they are not aware of the true nature of the article.

SEVERAL attempts have been made in former years to organize such a system of drug sales in this city as have long been customary in London and as were described in our volume of last year, but they have thus far failed after a very brief term of existence. Philadelphia dealers in drugs have also, we believe, made a similar attempt. It has long been recognized as an unfilled want, but the conditions to insure its success do not seem to have been favorable.

On the 26th of January an organization was formed, under recent provisions of the Board of Trade and Transportation, which may result in something of the nature of a regular drug sale and be of considerable advantage to the trade generally. The organization is, in fact, a section of the Board of Trade and Transportation, which will serve as an administrative centre, and which is intended to embrace sections of such other branches of business as cigars, soap, bottles and glass, etc.

Among the firms represented at the meeting were Dodge & Olcott, Tarrant & Co., J. H. Baker & Bro., Lehn & Fink, Seabury & Johnson, Fairchild Bros. & Foster, Fraser & Co., Schoelkopf, Hartfert & Maclagan (Limited), Theodore Ricksecker, Rogers & Pyatt, R. W. Robinson & Son, Williams, Steiger & Co.

George M. Olcott, the temporary chairman under the preliminary organization, presided and explained the objects of the section. He declined an election as permanent chairman on account of a press of other business, and the honor was then accorded to John McKesson, Jr., of McKesson & Robbins. S. W. Fairchild, of Fairchild Brothers & Foster, was elected vice-chairman. F. S. Gardner, the acting secretary of the board, will be secretary of the trade section.

Two plans for committees were submitted to the meeting. One called for a number of committees, each with a specified field; the other provided for one executive committee, which should look out for all the interests of the section, except in cases where it seemed advisable to appoint special committees. The latter plan was finally adopted. The executive committee consists of the chairman and vice-chairman and Messrs. George J. Seabury, Albert Plaut, and F. M. Robinson.

This section includes wholesale druggists, manufacturing chemists, perfumery manufacturers, and importers of essential oils.

ALFRED WRIGHT, of Rochester, N. Y., widely known as a manufacturer of perfumery, died on the 19th of January. He was born in Avon, Livingston Co., November 6th, 1830, and had been engaged in the manufacture of perfumes for twenty-five years, within which time his factory became one of the most completely appointed establishments in the country. He was noted for his interest in public affairs, and held many positions of trust and honor in the Park Commission, banks, hospitals, charitable and educational and religious bodies. He was a liberal contributor of both time and money to whatever was calculated to promote the welfare of his fellows.

NEWS NOTES.

GEORGIA GLEANINGS.

THE new year, so far, is crowded with great prospects for the pharmacist. From every side comes encouraging news of good business, and the drug trade, at least, is flourishing.

"The Grip" is by odds more prevalent this year than last, and keeps doctors and pharmacists "up to their eyes" in work.

DR. DUNCAN has returned from Europe, where he spent eight or nine months, and is now quite ill at his residence.

RYLAND C. WILLIAMS, late with Butler's Pharmacy, is now "mashing" (drugs) for Messrs. Howard & Willett, of Augusta, Ga.

W. K. LAYTON, formerly with Porter's Broughton street pharmacy, has accepted a position with Messrs. Sledge & Co., of Athens, Ga.

The small-pox scare has put many shekels in the pockets of the manipulators of the vaccine virus.

S. J. HART, who was at Dupuy's pharmacy, Richmond, Va., has accepted a place and is now at Butler's Pharmacy.

L. C. STRONG'S store would never be recognized as the same place since he has put on a new iron front, added new fixtures, and made such extensive improvements. It is an elegant and inviting place.

W. C. FINCHER has resigned his place at R. A. Rowlinski's, and has gone in for himself at Dalton, Ga. He will be sure to succeed, and we wish him a great deal of it.

H. GALLAGHER & CO., a new firm in a new building, are satisfied and happy, and delighted with their sales.

GEO. F. SYMONS, late Symons & Mell, the popular pharmacists, died the 10th inst. after a short illness, of paralysis, at his suburban home in Pooler.

DR. J. A. W. WEGEFARTH has just returned from Baltimore and the deathbed of his father.

DR. B. F. ULMER, one of our leading pharmacists, died January 18th. He was the originator and proprietor of many valuable preparations, and did a splendid business.

THE HABERSHAM STREET PHARMACY has moved across the street into the new building erected for it, and looks a model of neatness and elegance. Proprietor Cleaveland is delighted with his change.

MRS. HARDEE is to reopen the stand just vacated by the Habersham Street Pharmacy, with Mr. O'Rear, of Salt Lake City, as manager.

H. W. THOMAS, who goes to R. A. Rowlinski, is succeeded at L. C. Strong's by H. E. Morrison, who was formerly at the Dispensary.

MICHIGAN MEMORANDA.

WILLIAM F. SEATON, formerly of Detroit, but now president of the American White Lead and Color Works, of New Orleans, La., was married to Miss Mary Higham, at Lansing, on the 13th of January. They will make a two weeks' wedding journey through Florida before returning to their future home in New Orleans.

A MINERAL SPRING has recently been struck on the farm of Alfred Woodworth, a few miles west of Detroit. An examination showed it to be very similar to the Mt. Clemens water, and certain capitalists contemplate buying the spring and erecting a sanitarium on the grounds.

THE HEALTH BOARD of Detroit reports a large decrease of diphtheria and scarlet fever cases. Windsor, however, has more than her share, and a serious epidemic is feared.

DR. D. W. MARTIN, of Lakeview, who brought suit against Andrew McAsee, a prominent lumberman, for $25,000 damages for alienating his wife's affections, was awarded $650 by the jury.

THE MICHIGAN SALT COMBINE has decided to dissolve March 31st, a resolution to that effect being adopted at its last meeting. Increased competition in other parts of the country is the cause assigned for this action.

MR. A. F. W. NEYNABER died of acute pneumonia on January 15th at his home in Windsor. Mr. Neynaber was well known to the manufacturing trade throughout the country, and was connected with the firm of McKesson & Robbins for several years before coming West. He was the author of a "Students' Latin Grammar" and the inventor of an improved process for coating pills with gelatin. Four sons survive him, two of whom inherit their father's love of pharmacy, and like him are practical pill manufacturers.

DR. J. W. PALMER, of Detroit, who received a small supply of Prof. Koch's lymph from Berlin in December, has two patients under treatment, both suffering from incipient consumption. He reports them as having steadily improved ever since the injections were commenced, and hopes to effect an ultimate cure in both cases.

THE CUSTOMS DEPARTMENT recently made a raid on all the Chinese laundries in Detroit, with the expectation of making a rich haul of smuggled opium, but either they had been misinformed or else the benighted heathen were on to their little game. At any rate, the results of their labors were as barren as the victim of one of Mr. Lawson Tait's most brilliant efforts.

The new DEPARTMENT OF PHARMACY of the Detroit College of Medicine was formally opened on the evening of January 5th. The trustees and faculty of the college have long contemplated this addition to the institution, but heretofore have been deterred by the lack of suitable apartments, and by other reasons. On moving into their new building, however, they found ample space at their disposal, and through the generosity of some of Detroit's wealthy citizens were enabled to secure the services of an efficient corps of instructors. After a few preliminary remarks by the president of the board of trustees, Dr. T. A. McGraw, the Dean of the Faculty, made the opening speech. He said the present occasion brought forcibly to mind a similar one twenty-two years ago when the College of Medicine was first opened, and then traced the gradual growth and development of medical and pharmaceutical science, with the corresponding increase in educational facilities, up to the present time. He pointed out the great and incalculable benefits, both direct and indirect, which all educational and scientific institutions bestow upon the cities wherein they are located. Not the students only, and the tradesmen upon whom the students shower their wealth, are the gainers. The boarding-house keepers and bartenders imperceptibly, almost unconsciously, but nevertheless surely, imbibe a precious knowledge of scientific laws, medical facts, and the principles of pharmaceutical assaying, through continually hearing lengthy discussions between erudite medics and pharmics carried on during their hours of relaxation. The directors of the college will not stop with this addition of the department of Pharmacy, but it is their intention to gradually add other special schools. They already have in view the establishment of a School of Dentistry, a Lying-in Hospital, a Veterinary Infirmary, and a Chair of Comparative Anatomy.

At the conclusion of Dr. McGraw's speech, brief remarks were made by J. E. Clark, M.D., Professor of General Chemistry; J. LeRoy Webber, Professor of Pharmaceutical Chemistry; J. W. McEachren, Professor of Theoretical Chemistry; Leon C. Fink, Professor of Practical Pharmacy; George Suttie, Professor of Materia Medica; and last, but not least, E. C. Skinner, Professor of Pharmacal Jurisprudence.

The affair passed off very pleasantly, and closed with an inspection of the new pharmaceutical laboratory and lecture room by the students and guests present. Detroit is to be congratulated upon now having a first-class school of pharmacy, well equipped in every respect, and comparing favorably with the foremost colleges of the kind in the country in point of educational facilities and advantages offered by a laboratory complete in every detail, if not in the number of its students.

THE KALAMAZOO ACADEMY OF MEDICINE held its annual meeting January 20th. There were an afternoon and an evening session, the latter followed by a banquet. The following officers were elected for the ensuing year: President, Dr. Adolph Hochstein, Kalamazoo; First Vice-President, Dr. Huff, Bloomingdale; Second Vice-President, Dr. J. Simpson, Kalamazoo; Secretary, Dr. O. A. Lacrone, Kalamazoo; Librarian, Dr. A. O. Rockwell, Kalamazoo.

THE MICHIGAN STATE BOARD OF PHARMACY held a two-days session in Saginaw on January 13th and 14th. The Board is composed of George McDonald, of Kalamazoo; Jacob Jesson, of Muskegon; James Vernor, of Detroit; and Stanley Parker, of Owosso. The meeting was a very successful one, forty-one applicants being examined, of whom one was a lady.

The following were given certificates as first-class pharmacists: A. E. Dryer, of Ann Arbor; A. F. Dunlap, of Alpena; M. D. Henes, of Bay City; W. C. Church and D. Watson, of Detroit; C. T. Hicks, of Pontiac; J. R. Lewis, of Otisville; H. N. Montin, of Ishpeming; C. L. Osborn, of Vandalia; J. D. Vanness, of Peck; F. A. Sanford, of Grand Rapids; E. C. Voght, of Escanaba; H. N. Meloche, of Belding; Harry Dolson, F. C. Schirmer, and A. B. Fleischer, of Saginaw.

Those who passed the examination for assistant pharmacists were the following: W. R. Bacon, of Ann Arbor; C. W. Burdick, of Flint; J. Fairburn and H. Keller, of Detroit; B. E. Mathews, of Wayne; T. Dugan, of Lapeer; Elizabeth Golden and H. E. L. Smith, of Fenton; T. Karmsen, of Greenville; A. L. Kirtland, of Lakeview; H. B. Longyear, of Mason; G. McGillavray, of Ionia; W. P. Payne, of Lake Odessa; W. C. Babcock, of Britton; W. E. Decker, C. R. Fisher, C. L. Grube, H. A. Herzer, and E. Auschutz, of Saginaw.

ILLINOIS ITEMS.

A number of drug clerks spent the holidays at the homes of their parents. Among those who left the city to do so were Charles Rimmele, Paul Wickert, John Bick, John Witzmann, and Gustav Montag.

SCHMIDT BROTHERS have established a new store at 71st street and Cottage Grove avenue.

CHARLES W. DAY, erstwhile secretary and late president of the Illinois Board of Pharmacy, is now wrestling with the homœopathic interpretation of the Æsculapian science at the Hahnemann Medical College of Chicago.

THE DIASTASE CLUB meets every Friday at the club rooms in the Old Quincy.

The style of the old firm of Moench & Reinhold (Ontario and Clark streets) has been changed to W. Moench.

MR. HELLER has disposed of his store at 31st street and Michigan avenue to King & Rogers.

H. H. GREEN, of Bloomington, has been appointed by Governor Fifer to succeed C. W. Day, whose term of office as member of the Board of Pharmacy expired December 31st. Mr. Green has the honor, we believe, to be the first licentiate in pharmacy serving as a member of this board. He will be remembered as the first one to fire a bomb at the maladministration of the former pharmacy law. Whether this was done satisfactorily is not to be discussed here, but it is acknowledged that some of the facts adduced by him were not disproved, and that his intentions were certainly of a most beneficent character. We regard the new member of the board as a thorough, faithful, and conscientious man, and a competent pharmacist—the right kind of a person to carry out the principles of the law.

MR. REINHARD has opened a new store at Centre street and Hudson avenue.

PROF. HIRSCH, the alleged discoverer of a new process for the manufacture of aluminium on a cheap commercial basis, appears to be well known in pharmaceutic circles here. His process turns out to be a fraud, the metal which he claims to have produced having been furnished him at the regular market rates by a Pittsburgh concern. No doubt the credulous capitalists whom he inveigled are now deeply regretting their venturesomeness.

M. L. BRAUNS is now in business at 1119 California avenue.

THE BOARD OF PHARMACY met in Springfield on the 6th of January for the examination of candidates for the cer-

tificates of Registered and Assistant Pharmacist. The following were awarded the certificate of Registered Pharmacist: J. G. Bell, Tallula; G. B. Beresford, Hume; F. W. Cassingham, Roberts; W. H. Fish, Bayliss; H. H. Metz, Decatur; J. Malster, Chicago; J. E. Voight, Chicago; and F. M. Wales, of Lanark.

The following were awarded the minor certificate of Assistant Registered Pharmacist: H. Clark, Williamsville; F. E. Cooke, Mendon; D. L. Hess, Hettick; G. L. Henstize, Robinson; A. S. Mitchell, Springfield; and J. H. Montgomery, of Chicago.

At the business session F. Prickett was elected president, W. P. Boyd vice-president, and H. H. Green treasurer.

JOHN MCGEE has bought out his former employers, Field, Benedict & Co., at 57th street and Jefferson avenue.

A special lecture on the "Untoward Action of Drugs" was delivered by Dr. Kiernan at the Chicago College of Pharmacy, January 8th, and one on "Urinalysis, Physically, Chemically, and Microscopically Considered," by A. E. Hiss on January 15th. Two lectures will be delivered by Prof. A. E. Ebert on "General and Special Notes on Pharmacy and Pharmaceutical Practice."

The wife of PROF. EBERT is very ill.

W. H. STOLTE has fairly recovered from typhoid fever.

A copy of the constitution and by-laws of the Louisville Botanical Club recently came to hand, and with it a circular such as was sent to each member of the club. Aside from the interest in general which attaches to the club, which is composed of pharmacists and was organized for their advancement, socially, scientifically, and commercially, the circular is of special interest to the druggists of Chicago, inasmuch as attention is called to the fact that a dry-goods house of that city advertises prescriptions at 50 per cent prices, thus at once creating the presumption that Chicago furnishes the only instance of cut rates on prescriptions.

PROF. ALBERT E. EBERT, an old and well-known member of the Chicago College of Pharmacy and a prominent member of the American and Illinois Pharmaceutical Associations, recently celebrated the grand climacteric of his life. A surprise lay in store for him. On the evening of that day several of his college friends called upon him and inveigled him into the midst of a larger assembly of associates. A very pleasant time was had until midnight, when the assemblage dispersed. Naturally enough, the principal topics under discussion were the future welfare of the college and the National Association. Among those present were Senator Thiele, Prof. Hallberg, Dr. Hildebrand, A. G. Vogeler, R. C. Frerksen, F. M. Schmidt, Andrew Scherer, C. L. Feldkamp, H. W. C. Martin, A. T. Fleischer, E. R. Wolfner, W. K. Forsyth, and T. N. Jamieson.

A meeting of the Executive Committee of the Illinois Pharmaceutical Association was held in the Sherman House on January 14th.

ST. LOUIS SIFTINGS.

MR. CHITTENDAN is one of the most popular visitors to the retail drug stores of this city. He is local agent for several Eastern firms.

CHARLEY BORCHERS, PH.G., pharmacist at the Missouri Pacific Railway Hospital, is becoming quite an amateur photographer.

DR. A. C. ANTHONY, of Mine La Motte, Mo., is in the city on a visit and vacation. The doctor is as young and handsome as ever.

THEO. F. MEYER, General Manager and Vice-President of the Meyer Brothers Drug Co., is in Texas on business.

S. E. BARBER, of Louisiana, is doing some work for the J. H. McLean Medicine Co. while attending the College of Pharmacy. He is a rising young man.

DR. J. C. FALK, of the City Hospital, will deliver a lecture on "The Examination of Urine" in the near future. It will be under the auspices of the Alumni Association of the St. Louis College of Pharmacy, and be especially adapted to the needs of druggists.

J. A. W. FERNOW, corner of Broadway and Market street, is pushing proprietary goods in an earnest manner. He is a hustler.

OSCAR F. BAUSCH is with the Mallinckrodt Chemical Works and is pleased with the position.

LOUIS COUSINS, M.D., PH.G., is doing quite a business in comic illustrations. Advertisers should write to him.

Some of the local druggists got out very fine calendars, while a few distribute rather common ones that the children even refuse to take.

There are three lady students at the St. Louis College of Pharmacy this year. One of them is the wife of a prominent city druggist.

Fine candies are becoming common in the stores of this city. To this the confectioners object, and cut rates may be a result.

The new electric and cable street-car lines all help the down-town druggists, but do not please the pharmacists who have small stores in the suburbs.

WM. ILHARDT is permanently located with J. M. Good at 2348 Olive street. This is one of the finest prescription stores in the city.

MR. HOFFKAMP has changed from the Meyer Brothers Drug Co. to the Moffitt-West Drug Co. He is a popular salesman.

NEW ENGLAND NOTES.

THE special meeting of the Massachusetts State Pharmaceutical Association, held in December in Boston, to receive the report of the committee, appointed at the annual meeting, to take into consideration the matter of co-operative manufacturing, was well attended, and much enthusiasm was manifested. The plan on page 48 was adopted, and the committee of fifteen to whom the matter was left, with the understanding that upon the indorsement of twelve of the committee it should be considered as adopted by the association, have since indorsed it unanimously, so there is every probability that immediate action will be taken in the matter. The scheme has since been indorsed by the Rhode Island Association, so that it will doubtless find favor all over New England. It would seem as if this should call the attention of the proprietary manufacturers to the growing indisposition of the retail trade to longer handle articles that yield no profit. The present attitude of refusal to handle patents that are sold in bazaar stores must prove a great injury to them, but if a combined effort is made to push something else it will add to this. There seems to be a strong feeling (daily growing more prevalent) that the only remedy for cut prices is some modified plan for selling only to agents direct, and only to such as will give absolute assurance of willingness and ability to keep agreements not to cut or supply cutters. It remains for the jobbers to say whether they shall be "in it" or not. If they decide that it entails too much trouble and expense, it seems safe to say that the advent of another year will see them on the side with the goats—*i.e.*, "the left"—and goods will be sold direct to the retailer by the manufacturer.

It is understood that Mr. C. I. Hood is projecting a plan that will soon be put in operation, and which it is expected will to a large extent solve the difficulty. The proprietor that will step to the front with a plan that will protect the retail druggist in obtaining good prices can do the best stroke of advertising that he has ever done, and boom his goods all over the country. The cutters in many places seem to have got their fill, for one prominent cutter lately offered to put down $1,000 if some stop could be made to it.

The soda-fountain combine went into effect the 1st of January, and includes all the manufacturers save the Low Art Tile Company, and every effort was made to include them, but so far without effect. The deal seems to be towards uniformity in prices to be allowed for old fountains, the permission to use each other's designs after the lapse of two years, etc.

One of the most enterprising young firms in Boston is that of Beach & Clarridge, on India street, manufacturers and dealers in fountain requisites and fruit flavors. They are live young men, with something new to tickle the palate, and are "hustlers from Wayback." "Cleve-

land" has big feet, but they get there both at once every time.

The testimonial tendered ex-President Canning, of the Massachusetts College of Pharmacy, took the shape of a banquet at Young's Hotel on the evening of January 8th. It was a truly royal affair, and one of the finest of the kind ever undertaken by the drug profession in Massachusetts, reflecting great credit upon the committee—Messrs. J. G. Benedict, E. C. Marshall, and W. W. Bartlet. The tables, besides being laden with good things to eat, were handsomely decorated with flowers, while at each plate was a beautiful souvenir menu. A handsomely engrossed and framed set of resolutions, signed by his colaborers, and a beautiful silver tea service, were presented to Mr. Canning. There were present twenty members of the faculty and trustees. It was a testimonial worthily bestowed upon one of Massachusetts' most enthusiastic, most beloved, and self-sacrificing pharmacists.

THE BOSTON DRUGGISTS' ASSOCIATION will hold its annual meeting for election of officers on the last Tuesday in January, to be followed by a banquet. The latter is one of the great events in pharmaceutical circles around the "Hub," and an invitation to attend is considered a great favor.

THE RHODE ISLAND PHARMACEUTICAL ASSOCIATION held its nineteenth annual meeting in Prescott Post Hall, Providence, January 14th. The meeting was called to order by the president, Mr. F. A. Jackson, of Woonsocket. It was the largest meeting held by the Association in several years.

The executive committee reported that unless greater interest was taken another year in the chemistry class, in charge of Prof. Calder, it would be found necessary to discontinue it. No action was taken on the subject. Treasurer Fenner reported a balance in the treasury of $104. Secretary Cates reported two deaths and several resignations, leaving a membership of ninety. President Jackson, as delegate to the Convention for Revision of the Pharmacopœia, and Secretary Cates, as delegate to the American Pharmaceutical Association and the Convention of State Secretaries, made their reports. President Jackson in his address recommended the indorsement of the Massachusetts co-operative scheme, and the nomination of pharmacists from which list the governor should select the Pharmacy Board, both of which were accepte d and adopted by the Association.

Much discussion was brought out in regard to a motion that it be the sense of the association that it is in favor of interchange of certificates by State boards of those who have passed by examination, which was adopted by a strong majority. A list of twenty was nominated for the governor's selection of seven, to serve as the Board of Pharmacy, as all the present members go out in July.

It was voted to pay the travelling expenses of the secretary to the annual meetings of the Connecticut and Massachusetts associations, and to remit the dues of the secretary and treasurer. A motion was made to pay the secretary a salary, but at his suggestion the matter was dropped, he stating that he considered himself sufficiently remunerated already.

Prof. Viall, formerly of Cornell, read a paper on "New Remedies," including in the list and giving brief descriptions of antipyrin, acetanilid, exalgine, paraldehyde, chloralamid, sulphonol, resorcin, ichthyol, iodol, salol, pyrolin, guaiacol, etc.

Election of officers resulted in the election of Mr. Jas. O'Hare, of Providence, as president; H. M. Dudley, Woonsocket, vice-president; W. E. Cates, Providence, secretary; and A. W. Fenner, Jr., Providence, treasurer.

Four new members were admitted.

After being in session about three hours the association adjourned to Tillinghast's for the annual dinner provided at the expense of the treasury.

After the excellent menu had received the requisite attention, President O'Hare called upon the toast-master for the occasion (Mr. E. C. Danforth) to take command. Colonel Danforth, as became a good officer of the State militia, obeyed orders. He first called upon the president to welcome the guests, and then introduced Mr. J. W. Colcord, of Boston, as a gentleman who, from the nature of his business being in touch with the pharmaceutical profession throughout New England in all its branches, manufacturing, jobbing, and retailing, was able to enlighten them on the state of trade at present with the prospect of future relief.

Mr. C. related a story of how Mrs. Maloney was April-fooled, and stated that the retail trade, having had their April-fool, proposed to have as the next celebration a Fourth of July by asserting their independence. He related interviews with prominent manufacturers who, he was satisfied, were honest in their assertion of willingness to attempt to afford relief to the trade from cut prices. He predicted that the present year would see a great advance in the method of doing business, and that the retail trade were about to experience better times. The only requisite on their part was backbone, greater independence, and unanimity of action.

Dr. Peters, of the Rhode Island Hospital, was called upon, and requested his hospital steward, ex-President Taylor, to speak for him, which he briefly did.

Prof. Viall spoke principally in defence of State boards of pharmacy and a disbelief in the expediency of interchanges of certificates, with a plea for better education for the clerk and a better knowledge of current literature by the pharmacist himself.

Mr. Dudley, Mr. Cates, Mr. Vars, and others were called upon to speak, and severally bowed their acknowledgments.

A little over a month ago, Mr. L. M. Brock, of Lynn, a member of the Massachusetts legislature, and proprietor of Mrs. Soule's Moth and Freckle Lotion, was haled into court to answer to the charge of selling a bottle of the lotion (which consists of a solution of mercuric chloride) in violation of the law which requires all poisonous compounds to be duly labelled. He took the ground that the purchase was made under plea of desiring to sell again and at the jobbing price, therefore he was exempt from this restriction, on the ground that jobbers and manufacturers were not required to so label; and the matter was settled out of court. The next move on the part of the Board of Health was to prosecute several retailers on the ground of failing to label and record the sale of this same preparation. What the result will be is awaited with interest. While in some respects it is well to provide safeguards on this article, yet it seems unwise, as it is simply providing another competitor to "Rough on Rats" in the hands of the would-be suicide, by advertising it as such.

A lady correspondent from Maine writes, asking if Senator Don Cameron, of Pennsylvania, is the Decameron that she has heard quoted, and if his stories are to be found in the *Congressional Record*. In reply we suggest —REED.

MR. QUIN is soon to open a drugstore at the corner of Washington and Brookline streets, Boston, with one of Melvin & Badger's clerks in charge.

MR. MCINTYRE, formerly a clerk for Barker, is to open a new store in Gloucester.

MR. F. E. FISHER, late with Lillibridge, is to open a store in Mansfield.

C. H. BEEDLE & CO. are opening a new store in Lawrence, and one is to be opened by G. G. FREDERICK in the same place.

ROBBINS & SMITH are to open one in Worcester, Mass., in the store vacated by W. L. Davis, who returns to his old stand from which he was forced to remove on account of fire a year ago.

MR. W. R. WATTLES is to open a new store in Pawtucket, R. I.

MR. F. L. CAPWELL will occupy his new store about January 1st, in the same place.

L. B. SWEET & CO. have opened a new store in Bath, Maine.

MESSRS. CONLEY & MCMANUS, of Newburyport, have made an assignment, offering 30 per cent in settlement.

B. A. STAPLES has sold his store in Providence, R. I., to Archie Reeves, formerly with Howe & Carr.

DAVIS & YOUNG have opened a very handsome new store in Lynn, Mass.

A. B. GROVER, of East Weymouth, Mass., will open a store in Charlestown about March 1st.

C. A. SIEGEMUND has sold his store in Boston to Martin & Co., of Concord, N. H.

The governor, in his address, suggested the abolition of the State commissions, including the Board of Health and of Pharmacy, but they will stand another year at least, in spite of demagogism.

A. D. MOWRY'S store, on Boston Highlands, was damaged by fire on the 18th of January to the amount of $1,000.

THE PHARMACY BOARD of Massachusetts had a three-days session during the first week of January, during which eighteen applicants, out of a total of forty-one, were successful.

MR. COPLEY, of Dorchester, Mass., is soon to open a store there.

MR. BROWN, now a clerk with G. E. Fairbanks, of Dorchester, Mass., is going soon into business on his own account.

F. E. GROVE, of Dudley street, Boston Highlands, is to fit up and move into a new store.

F. H. BUTTER, of Lowell, Mass., expects to get into his new store about March 1st.

BREWER & SWIFT, of Brockton, Mass., dissolved partnership on January 1st, Mr. A. W. Brewer succeeding.

NASH & CHOSE, of North Abington and Brockton, Mass., have dissolved partnership, Mr. I. B. Nash taking the North Abington store and Mr. S. F. Chose the Brockton store.

Plan.

New England Pharmaceutical Association.

Organized for mutual protection and profit. One thousand shares, par value $25; total, $25,000. Members of the State Pharmaceutical Association in good and regular standing, and such other pharmacists out of the State as the Board of Directors may accept, are entitled to purchase from one to ten shares, which are transferable only to the treasurer of the Association. Any member of the said Association making application for one or more shares in the Association must fill out and sign the following blank:

[Form One.]

Application for stock in the New England Pharmaceutical Association.

To the Board of Directors:

The undersigned, registered pharmacist , doing business at ——, member of the said Association, desire to become member of the New England Pharmaceutical Association and to purchase —— shares of the stock, and hereby agree to conform to the by-laws of the Association in every particular; and any and all goods I, or we, may at any time purchase from the Association shall be sold at the prices fixed by the Association; and I, or we, further agree to give preference, so far as my, or our, interests permit, to all of the Association goods.

The following are the rules and obligations, to which every member must subscribe:

1. There shall be a Board of 15 Directors with full powers to conduct the Association for and in the interests of all its members, elected as follows:

Three to serve for 5 years, three for 4 years, three for 2, and three for 1 year, and thereafter three to be elected annually to serve for 5 years.

2. From the Board of Directors shall be selected an Executive Committee of five, a President, Vice-President, Treasurer, and Clerk, and from the Association at large an Auditing Committee of three.

3. It shall be the duty of the Board of Directors to receive and examine formulas and samples of proprietary goods; select or formulate, in their opinion, the best of its kind, and arrange to prepare, put up, and pack safely for transportation by freight or express. And this selection and arrangement for manufacturing shall be carried out with each and every article accepted and adopted by the Board.

Each and every package or article thus selected and authorized to be made shall have label, wrapper, or carton, with name and trade mark of this Association thereon, and said labels, wrappers, or cartons shall be furnished at net cost by the Directors, and all goods thus made shall become at once the property of the Association, at prices agreed upon in writing, which prices shall be only enough above actual cost to pay for the labor of putting up and shipping. The Directors shall determine the retail, dozen, or gross price, from which there shall be no variation.

4. Each and every person or firm selected to manufacture and put up any one or more articles adopted by the Board, shall in every case agree to subscribe to

(Form Two.)

I, or we, —— of ——, having been selected by the Directors of the New England Pharmaceutical Association to prepare and put up ——, do hereby agree to prepare and put up all and no more than shall be ordered by the treasurer of the Association; to report at once to the treasurer the quantity put up, which shall be credited to my account; and also report the quantity taken for personal sale, if any, which shall be charged to me, or us, at Association rates.

I, or we, further agree that all goods thus made shall at once become the property of the Association, and subject to the order of the treasurer, but in no case shall a claim for payment be made for the goods until ordered for sale and delivered to purchaser.

5. It is understood and agreed that the differences between the articles or goods thus made and credited to the several makers at prices agreed upon, and the prices which each and every one shall pay for them, are to be divided pro rata among the stockholders, after deducting all expenses and such amount as the Directors may determine as an exigency fund.

6. It is intended to make retail prices of these goods to meet ordinary cut rates; and dozen or gross prices that shall yield adequate returns besides the dividends, which will be dependent upon the amount of business done and the amount, if any, put into advertising.

7. All goods must be ordered from the treasurer, who will direct the maker to ship at once, with memorandum to buyer and also to treasurer, who will send bill, and the buyer must remit by mail his check within ten days of the receipt of goods. Orders in excess of the amount of stock held by the purchaser must be accompanied by cash.

8. While all goods, for the purpose of equal justice and absolute protection, become the property of the Association as soon as made or while in the process of manufacture, and the formulas also, it is agreed that the maker is to hold them subject to order, but not as a claim against the Association. This is deemed a just equivalent for the advantage, if any, in making and putting up the goods.

9. It shall be the especial duty of all officers of the Association to exercise due care and diligence in securing for every member of the Association equal privileges and rights upon all occasions—particularly in distributing a large lot of any popular article, if special terms can be secured.

10. The Directors shall, at the proper time, publish a neat and attractive book for distribution among the stockholders; said book to be for the general advertising of the Association's preparations.

11. The Executive Committee, in addition to their duties as an Advisory Board, shall act as a Board of Trustees, to hold all certificates of stock issued by this Association, and shall receipt therefore as follows:

(Form Three.)

This is to certify that we hold in trust for —— and the New England Pharmaceutical Association certificate of shares in the New England Pharmaceutical Association numbered ——, said stock being held by us as a guarantee of payment of all dues for goods received. And if said —— or his legal representative shall at any time desire to sever his connection with this Association, then the full equitable value of the stock, as determined by us, shall be paid from the treasury of the Association, less any lien for goods there may be upon it, and said certificate shall be cancelled by us and the treasurer.